Australian Government

Department of the Prime Minister and Cabinet

The Australian Emissions Trading System

Climate Change Group
Department of the Prime Minister and Cabinet

Caretaker Conventions

- The Government is in caretaker mode
  - The caretaker period commenced on the dissolution of the House of Representatives on 17 October 2007 and will end when the election result is clear or, if there is a change of government, when that government is appointed
- Statements today must be limited to factual issues and matters of administration

Background

- Task Group recommendations:
  - adopt post-2012 target before global agreement;
  - introduce ‘cap and trade’ scheme starting 2011
    - maximum practical coverage of sectors and gases
    - accompany with active global strategy to achieve workable global scheme
- Long-term focus to generate rising forward carbon price

Australia – a small contributor to world emissions

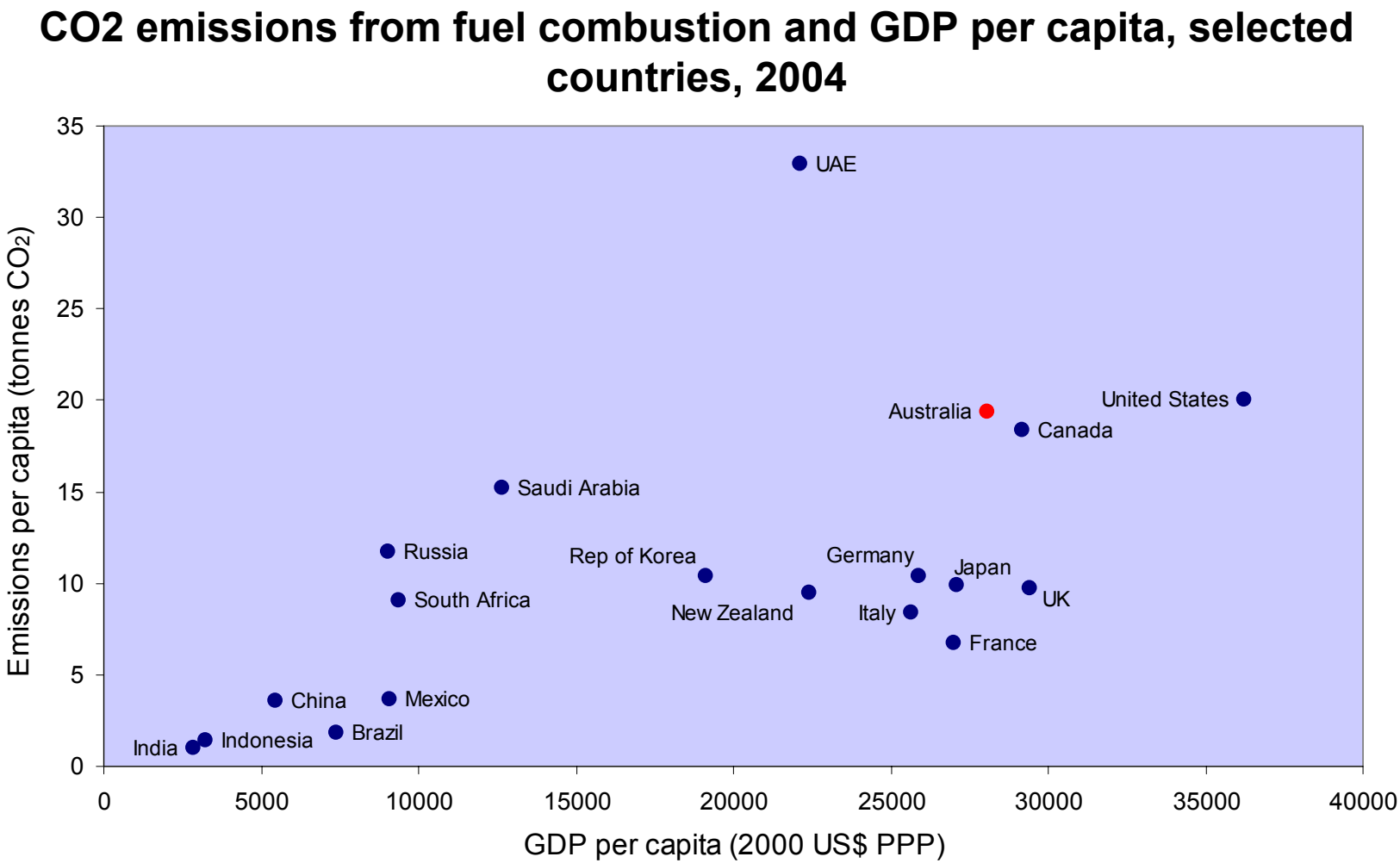
Country	Per cent of global emissions in 2000	Per cent of global emissions in 2050
US	20.6%	15.1%
China	14.7%	22.9%
EU25	14.0%	7.8%
Russia	5.7%	2.8%
India	5.6%	9.2%
Japan	3.9%	1.8%
Brazil	2.5%	2.2%
Canada	2.0%	1.3%
Republic of Korea	1.5%	1.0%
Mexico	1.5%	1.7%
Indonesia	1.5%	2.2%
Australia	1.5%	1.0%
South Africa	1.2%	1.1%
Rest of the world	23.8%	29.9%

In 2050…

China + India = 32.1%

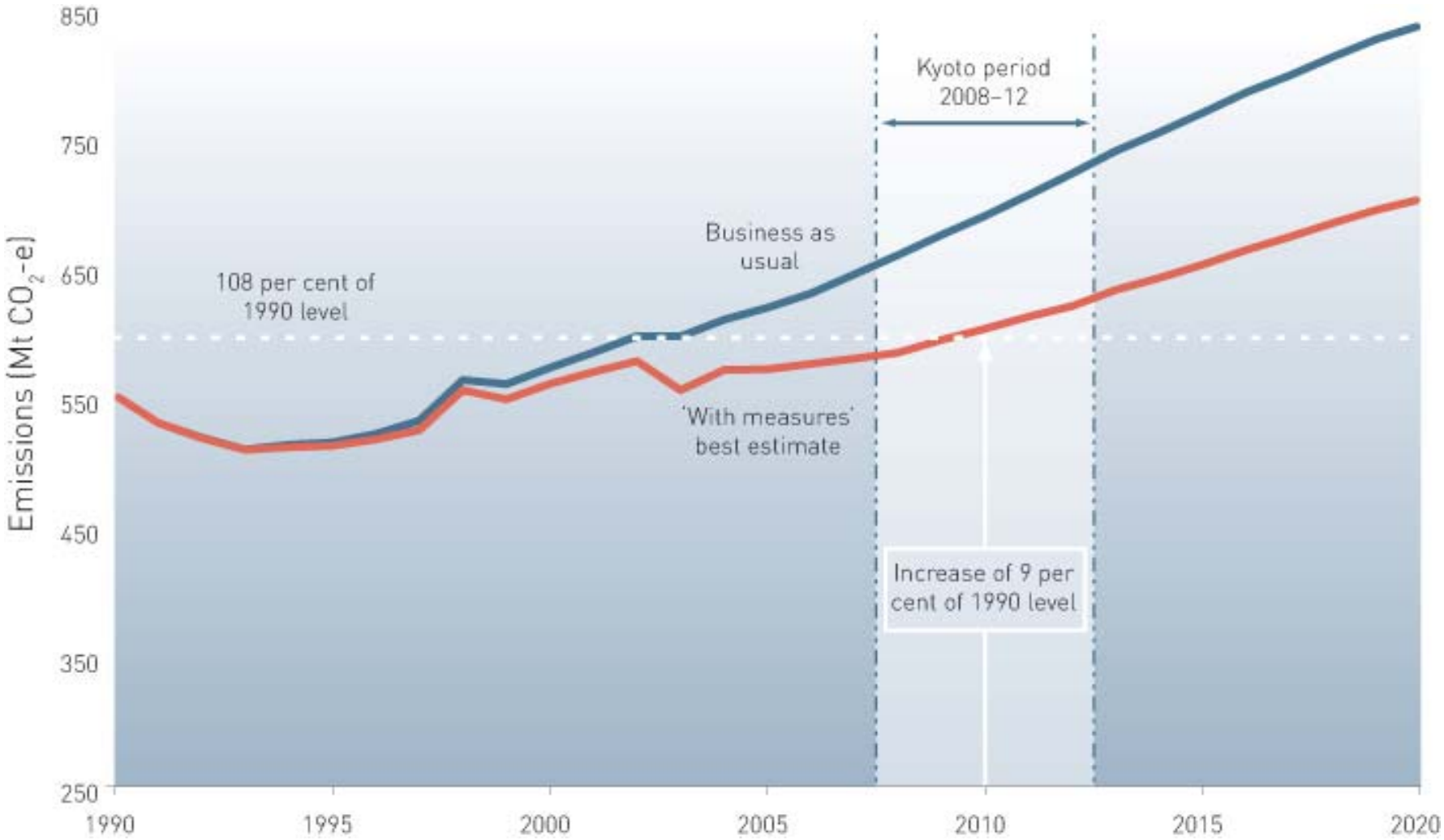
US, EU, Japan, Russia, Australia, Canada and Korea = 30.8%

…but high per capita



World Bank, 2007

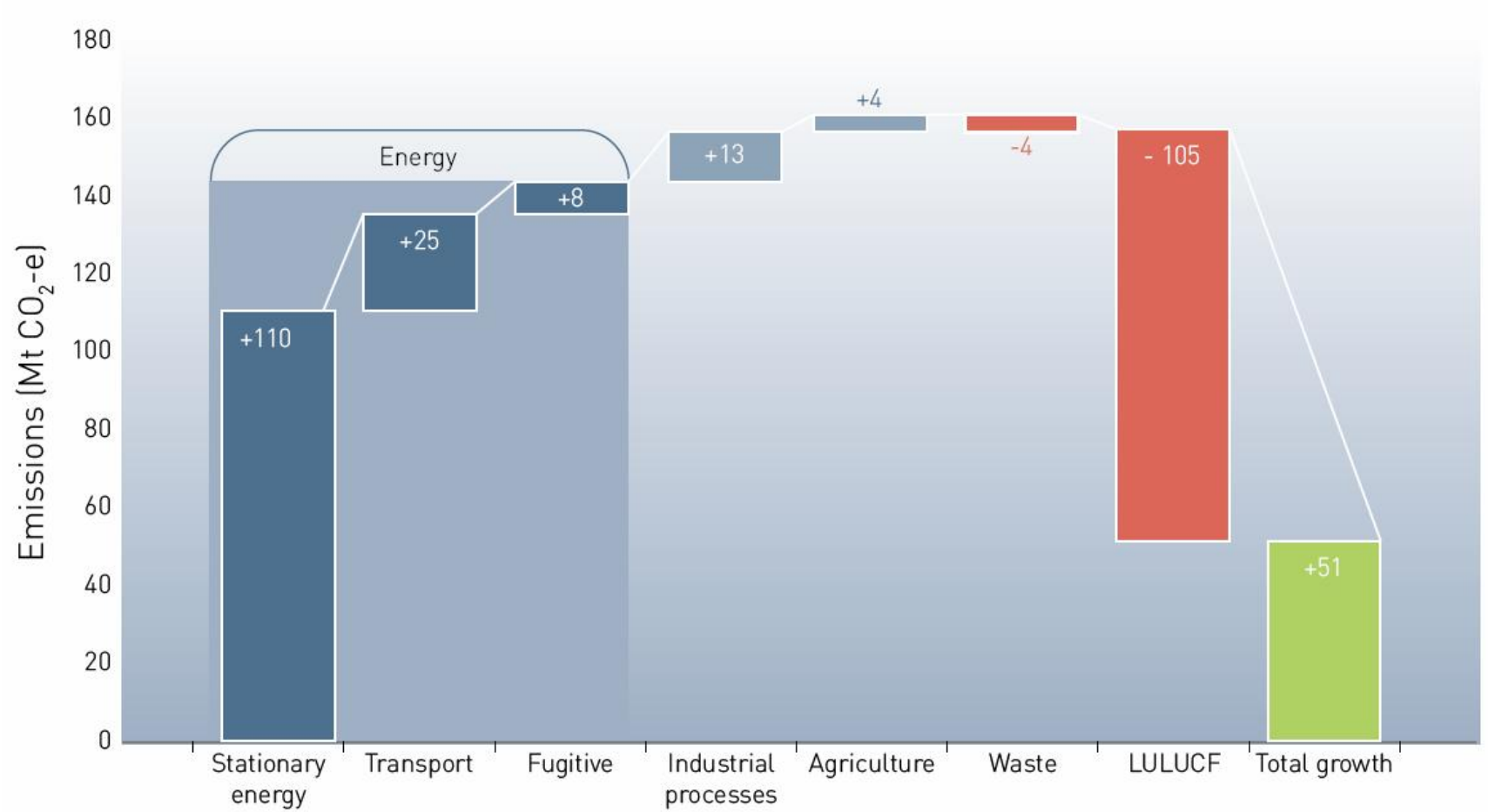
Australia's projected emissions



AGO, 2006

Phasing-out land clearing made a major contribution …

Sectoral contributions to Australian emissions growth, 1990–2010



Australian Greenhouse Office, 2006

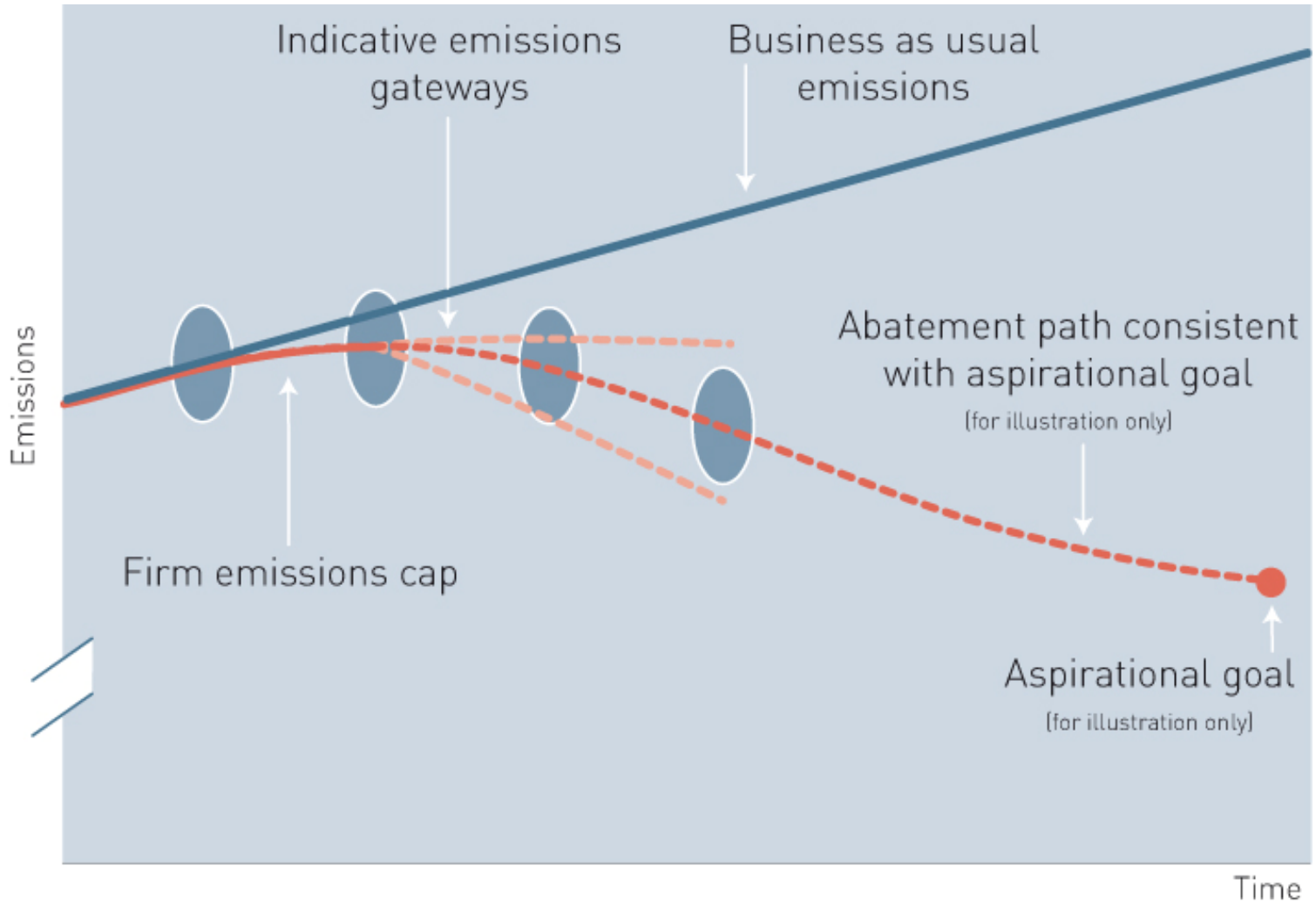
What is Emissions Trading?

- Set the overall cap on emissions
- Allocate emission permits equal to overall emissions cap – either by auction or free allocation
- Emitters are required to acquit a permit for each tonne of emissions in a year
- Firms have different abilities to reduce emissions
- Development of a permit trading market and a carbon price

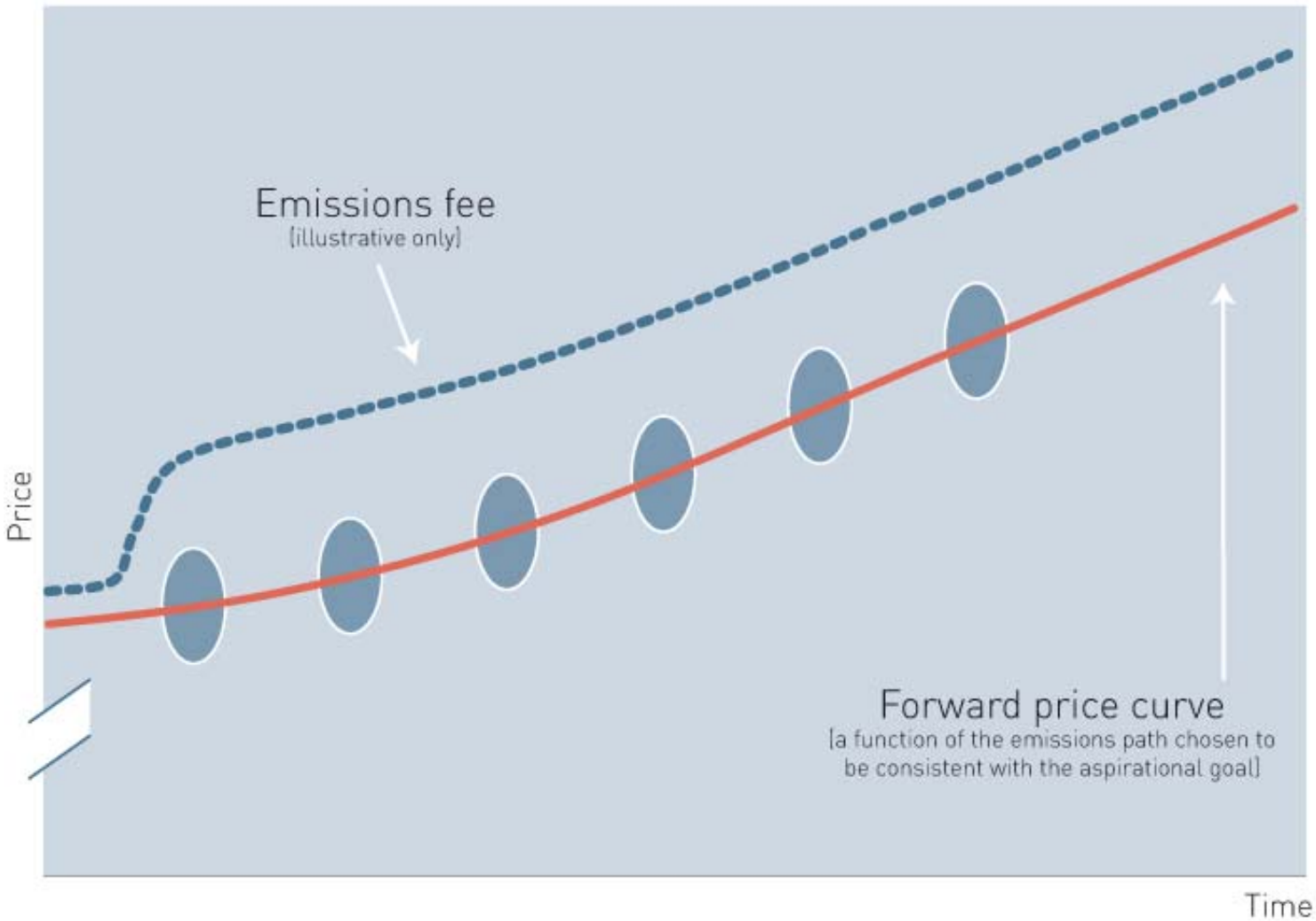
Key elements of the ETS

- Carefully calibrated emissions trajectory
- Maximum practical coverage
- A mixture of free allocation and auctioning
- A ‘safety valve’ emissions fee
- Links to other comparable schemes
- Recognition of offsets
- Incentives in the lead up to start of scheme?

The Emissions Trajectory



The Forward Price curve



Design Features #1

Coverage

- Large emitters (>25kt) and upstream fuel suppliers
  - 70-75% of total emissions at outset
- Excluded sectors (agriculture, forestry and waste) included as soon as possible
  - if excluded for long time, adopt alternative mechanisms to deliver sectoral reductions

Large Emitting Facilities	Liable for direct emissions – around 900 facilities
Fuel suppliers	Liable for energy emissions from fuel used by small emitters (lifts coverage close to 100% in covered sectors, >70% total emissions)
Households and other businesses	No direct liability: price impact
Agriculture/land use	No direct liability initially: price impact on fuel Included as soon as practical

Why is agriculture important?

...because of the global warming potentials of emissions from agriculture

Greenhouse gas	Global warming potential (100 years)
Carbon dioxide (CO2)	1
Methane (CH4)	21
Nitrous oxide (N2O)	310
Sulphur hexafluoride (SF6)	23,900
Hydrofluorocarbons (HFCs)	140 – 11,700
Perfluorocarbons (PFCs)	6,500 – 9,200

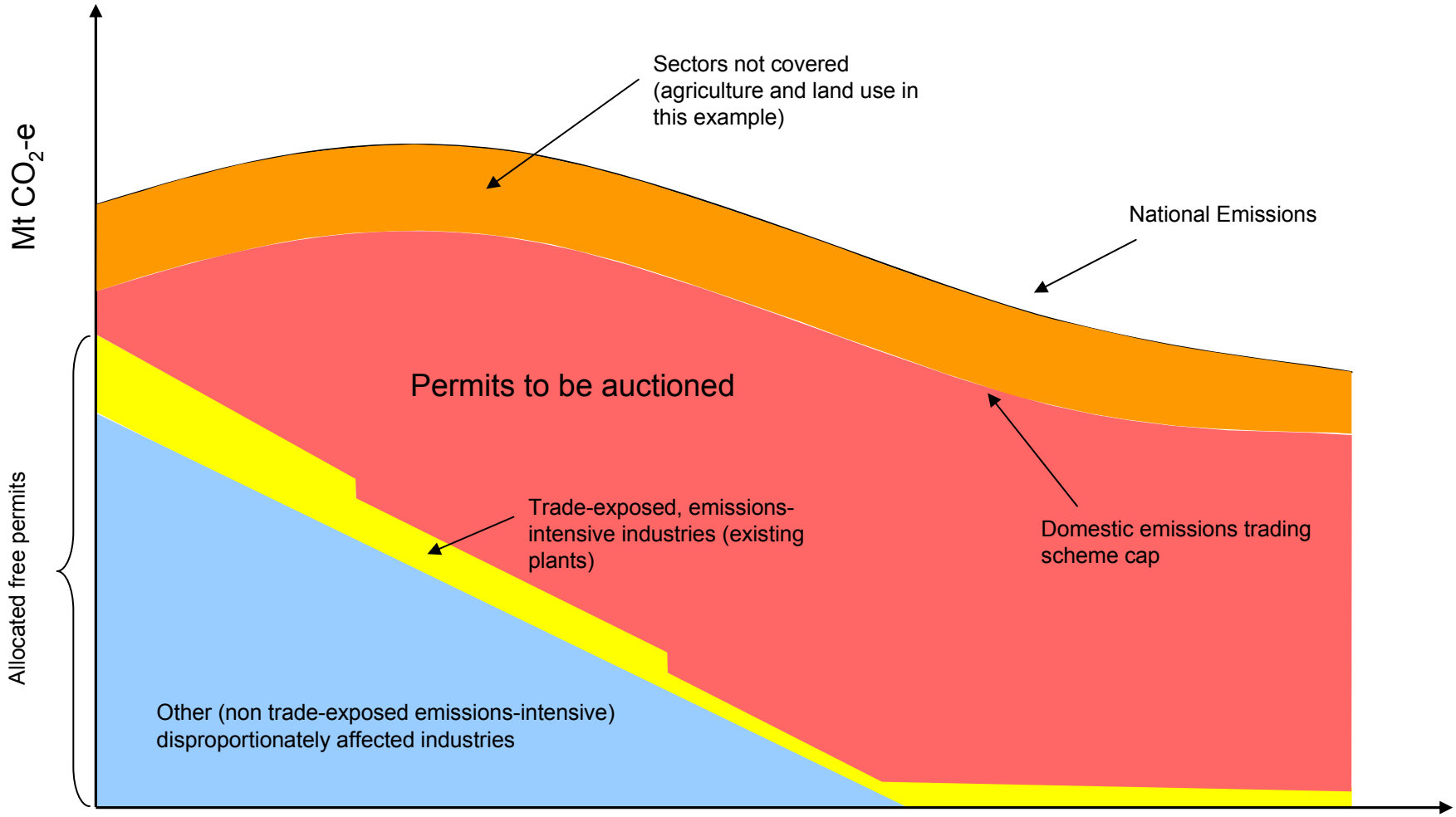
Australian Greenhouse Office, 2006

Design Features #2

Allocation

- Once-only free allocation to existing businesses identified as likely to suffer disproportionate loss
- Continuing free allocation for trade-exposed emissions-intensive industries
  - transitional arrangement (key international competitors)
  - reviewed every five years
  - incentive for abatement - adoption of best practice
- Auction remaining permits
  - revenues: RDD of LET; impediments to transition to low carbon economy; assistance to households

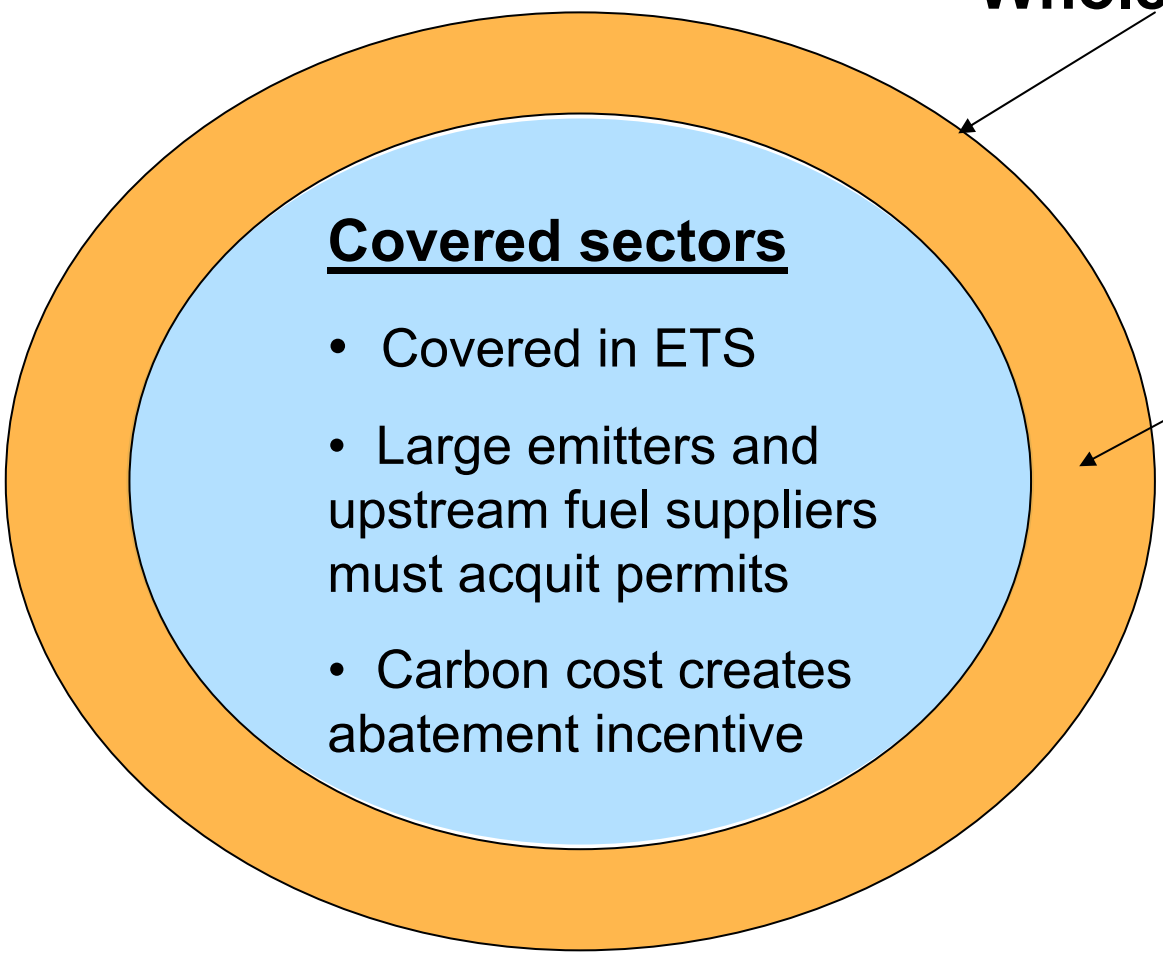
Permit auctioning increasing over time



Key issues for Agriculture & Forestry

- Agricultural emissions to be brought into the scheme as practical issues are resolved
  - lack of reliable measurement at a sectoral level and also often at the farm scale
  - complexity and cost of verifying emissions
- Research and development priority to:
  - improve measurement of emissions; and
  - develop greater understanding of practical abatement opportunities

“Covered” & “Uncovered” sectors



Uncovered sectors

- No need to hold permits
- Potential to create offsets
- Other policies to deliver abatement

Credit approval mechanism

- **Greenhouse Friendly** programme initially
  - Draws on internationally recognised standards
  - Forest offset protocol allows immediate start
    - review in 2008
- Streamlining
  - protocol development
  - legislative backing?

Cooperation with New Zealand

- Release of NZ ETS Framework by PM Clark on 20 September 2007
- Agriculture 48% of NZ emissions
- Under NZ trading scheme
  - forestry would be covered in 2008
  - agriculture included from 2013
  - point of obligation downstream to address administrative costs of direct obligation on numerous small businesses

Adaptation is an important part of any Climate Change response

Climate change will affect all farmers

- 2030 likely 1^0C higher than 1990, hotter inland and cooler on the coast
- Probability temperature higher than 1^0C by 2030 is 10-20% coastal, 50%+ inland.
- By 2070 increases in temperature of 1.8^0C – 3.4^0C possible

Australian adaptation strategies

- COAG National Adaptation Framework
  - Identifies agriculture as a vulnerable sector
  - Lists potential areas of action
- Australian Centre for Climate Change Adaptation
- CSIRO Adaptation Flagship
- Other programmes

Implementation

- 2007-2008 - Detailed design of AETS.
  - Establishing long term aspirational target
- 2009 – Pass legislation. Establish regulator in Treasury
- 2010 – Announce allocations, set short term targets
- 2011 – Commence emissions trading scheme

Questions?

Contact details:

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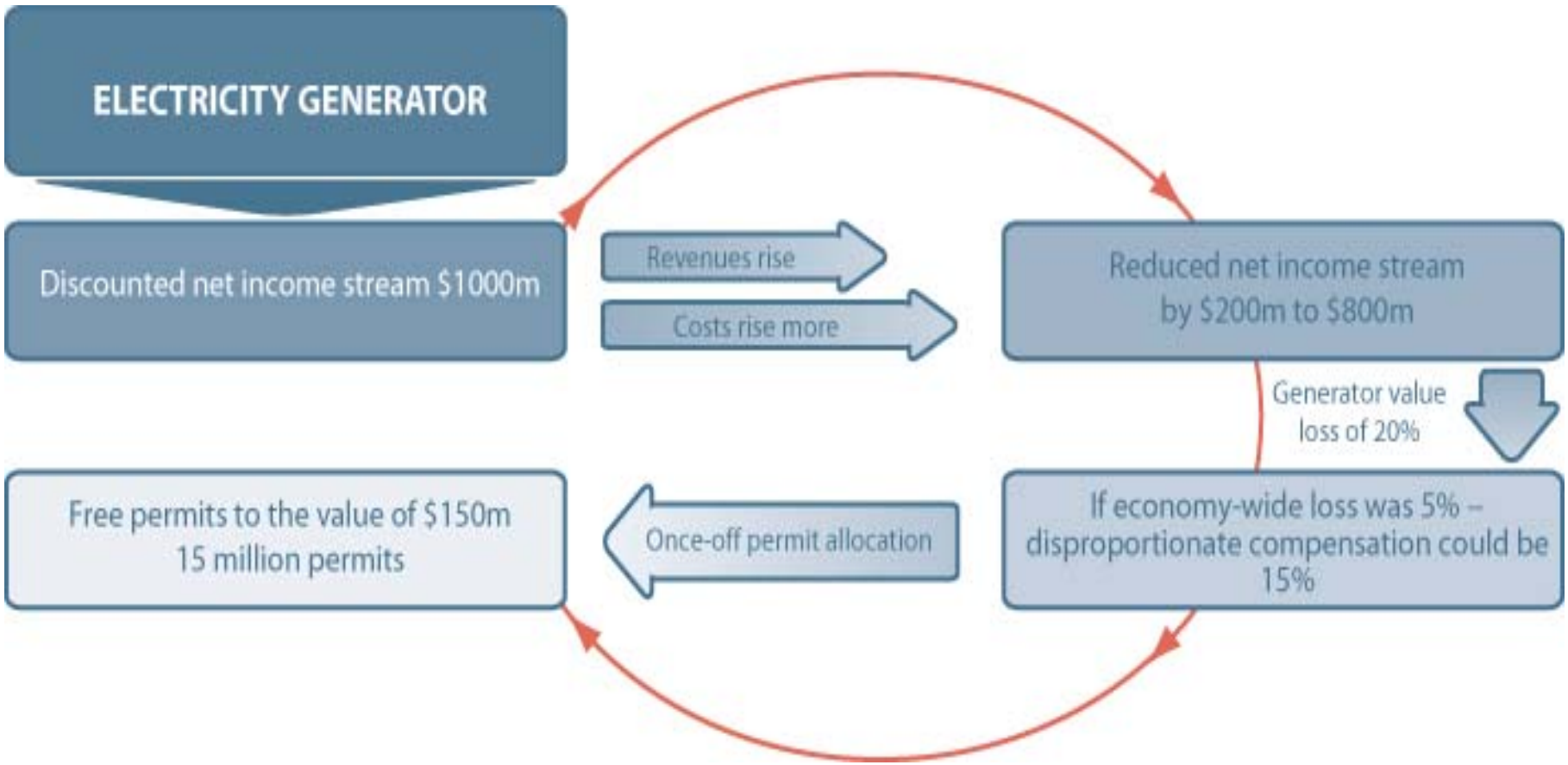
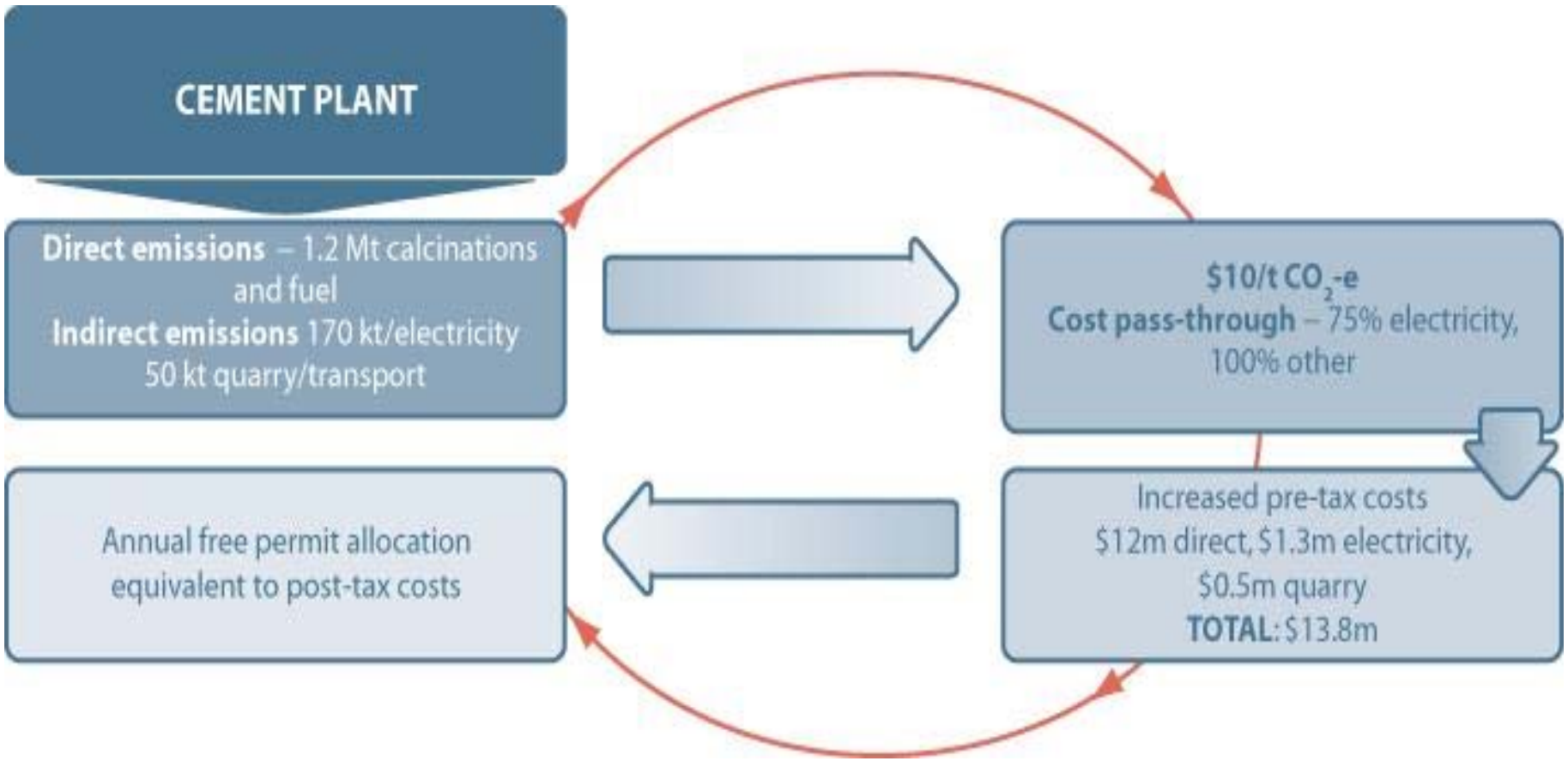
Allocation of Permits



Trade Exposed Emissions Intensives

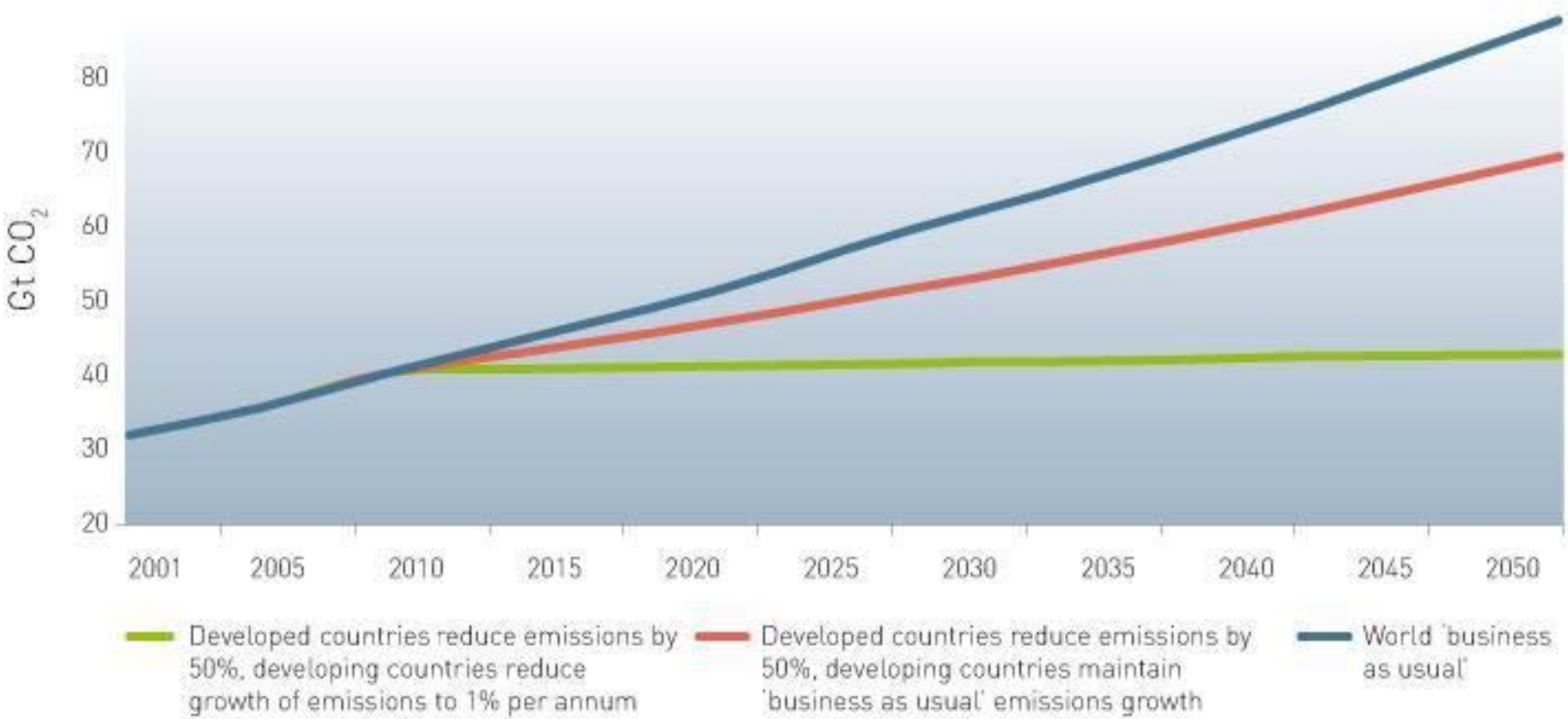


IPCC Stabilisation Pathways

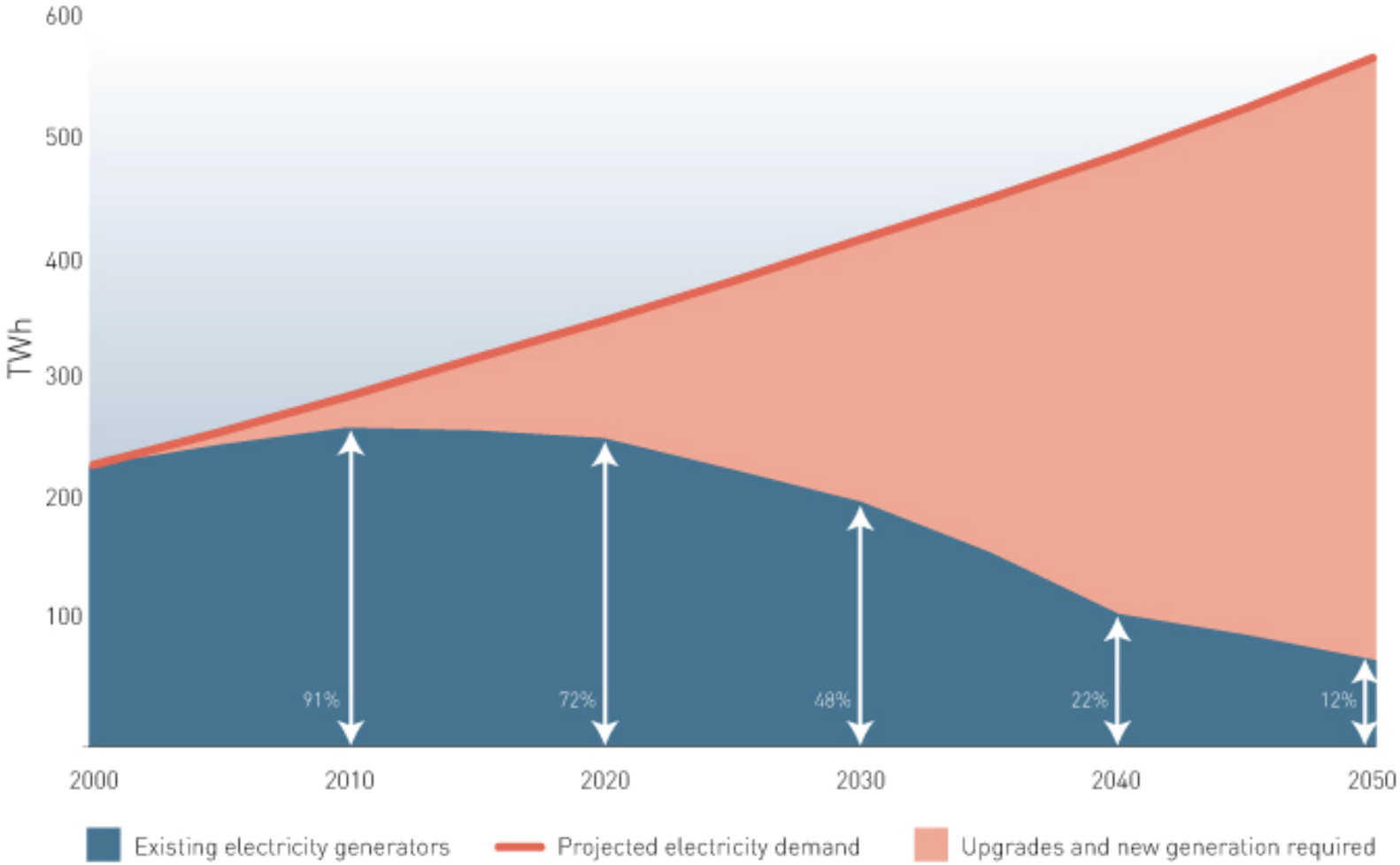
Ultimate CO_2 concentration (ppm)	Global mean temperature increase# (°C)	Peaking year for CO_2 emissions	Change in global CO_2 emissions in 2050* (%)
350 – 400	2.0 – 2.4	2000 – 2015	-85 to -50
400 – 440	2.4 – 2.8	2000 – 2020	-60 to -30
440 – 485	2.8 – 3.2	2010 – 2030	-30 to +5
485 – 570	3.2 – 4.0	2020 – 2060	+10 to +60
570 – 660	4.0 – 4.9	2050 – 2080	+25 to +85
660 – 790	4.9 – 6.1	2060 – 2090	+90 to +140

Increase above pre-industrial at equilibrium
* Percentage of 2000 emissions

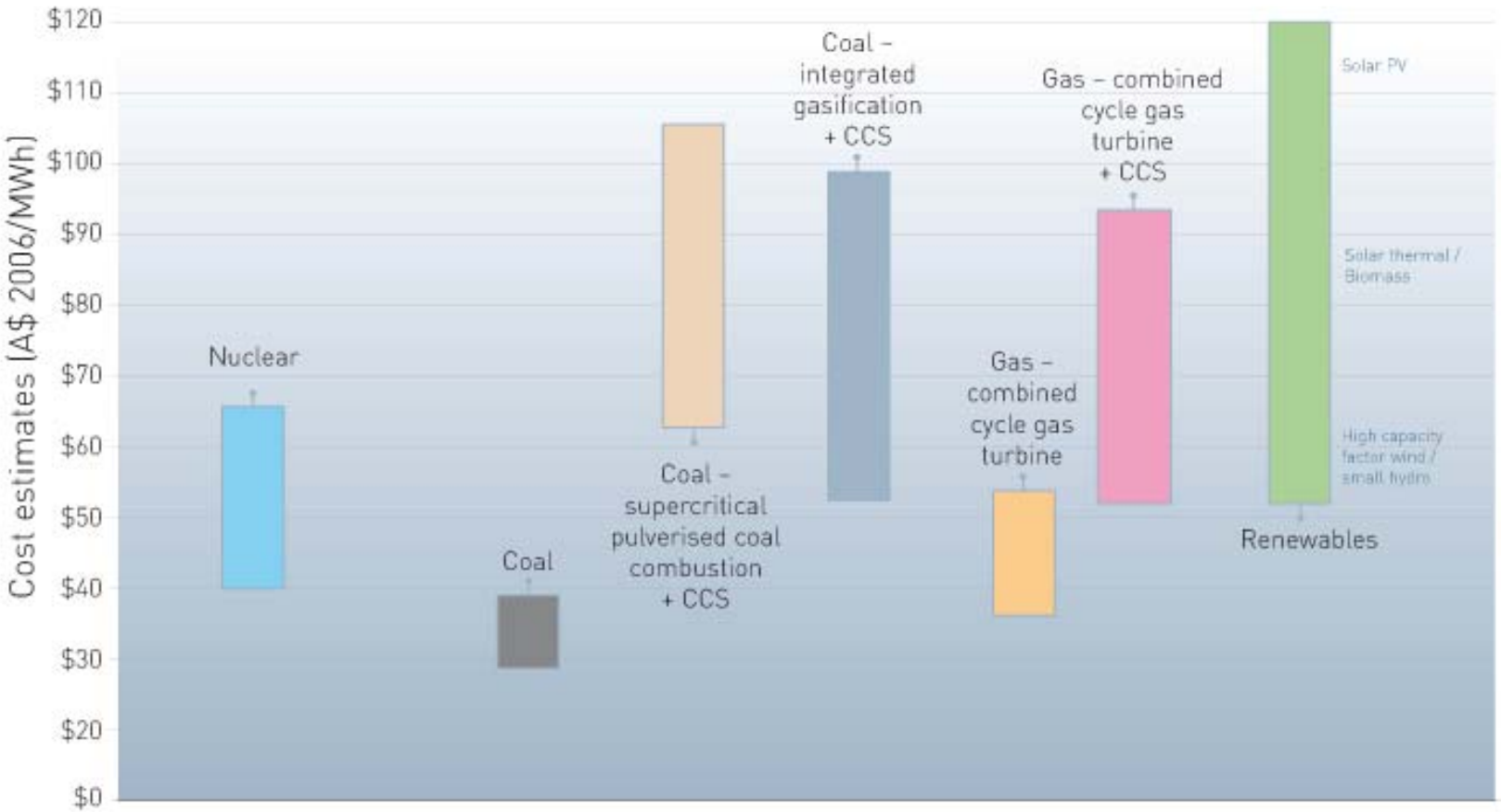
World Emissions Scenarios, 2001-2050



Demand Supply Balance for Electricity

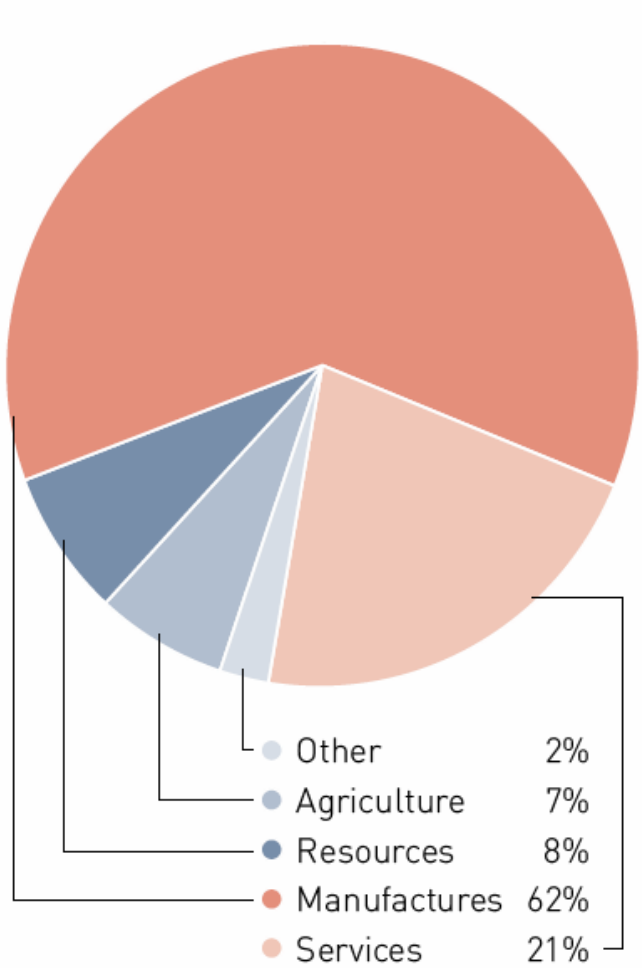


Cost Ranges for Various Technologies

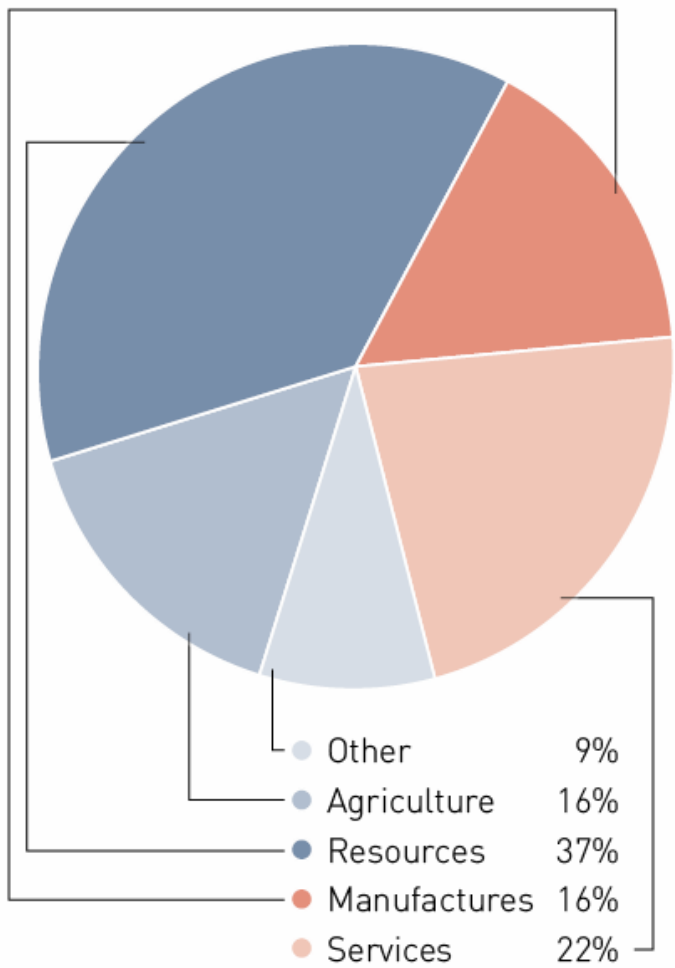


Exports

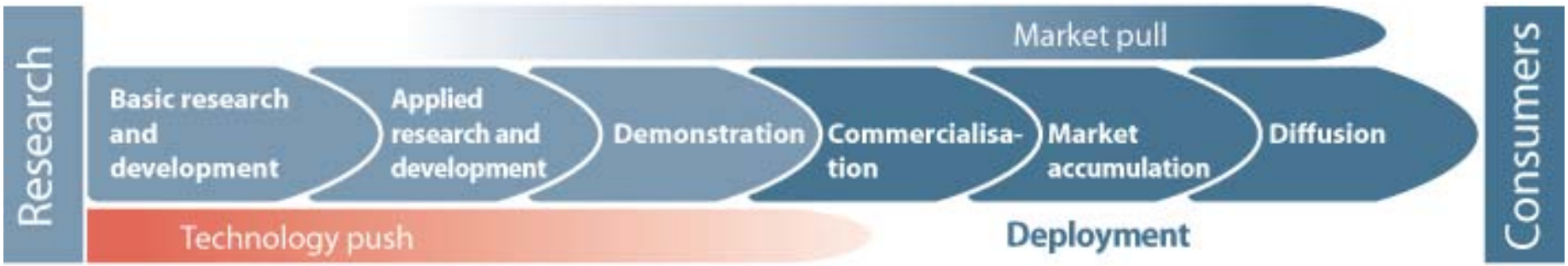
OECD



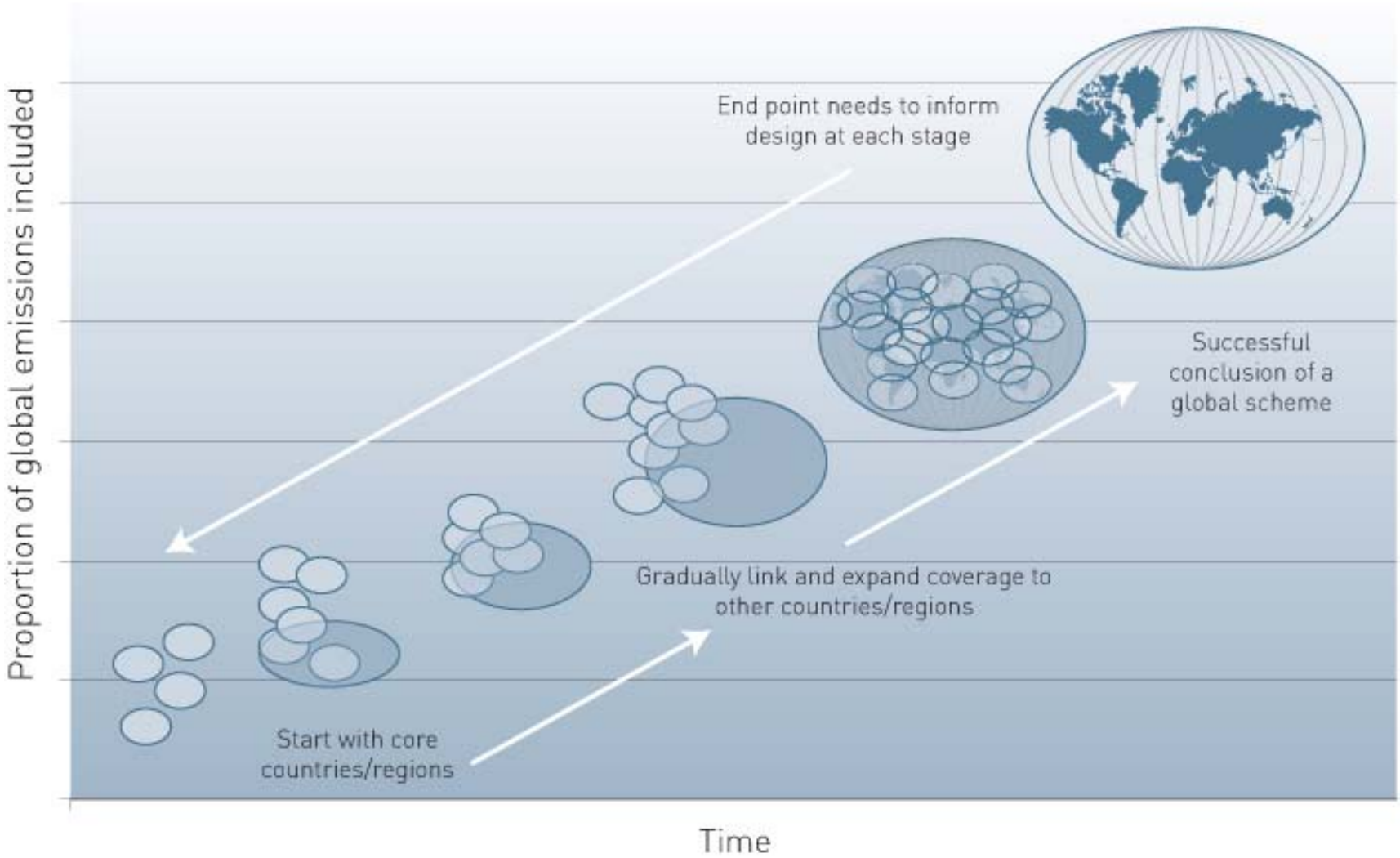
Australia



Main Steps in the Innovation Cycle



A global emissions trading scheme



Emissions trading worked example #1

- 2 companies, A and B each emit 100,000t CO2
- Total emissions are 200,000t CO2
- Government imposes emissions constraint reduce total emissions to 190,000t CO2
- Government decides to give each company permits equal to 95,000t CO2
- Price emerges at $10 per t CO2

Emissions trading worked example #2

- Different abatement costs between company A and company B
- Company A emits 90,000t CO2
- Company B emits 100,000t CO2, purchasing surplus allowances from Company A to emit additional 5,000t
- Auction: Similar outcome, different trading flows

Emissions trading worked example #3

- A third company C is not liable under the emissions trading scheme but can eliminate 10,000 tonnes CO2 at $7 per tonne compared to the market price of $10 per tonne.
- It sells emission reductions as offsets into the market.
- Overall there is a reduction in emissions of 10,000 tonnes but it has only cost $7 per tonne not $10.

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